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THOS. D. TUTTLE, M. D., Secretary

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The Bulletin is late in being issued this month on account of delays over which we have no control, and while it is dated the 15th it goes to press after the Public Health meeting, which was held on the 22nd. This meeting was a most enthusiastic and successful one and we believe it will result in much good to the people of the State.

The proceedings of this meeting will be given from time to time in future bulletins.

ANTITOXINE IN DIPHTHERIA.

As soon as a disease attacks the system nature begins to fight it. In diphtheria the disease germ does not enter the blood but lives on the surface, and there produces a poison that is absorbed through the mucous membrane, or skin of the throat. As soon as this poison enters the system nature begins to manufacture, in the system, an antidote for this poison. If the system is in good condition and the antidote is developed sufficiently fast the effect produced by the poison from the disease germs is overcome, and because they can not live where this antidote is present, the germs quickly die and the membrane in which they lived comes away and the patient recovers. This is what nature does, and by the study of this work of nature man has been able to produce exactly the same antidote for this poison that nature herself produces, so that, when the system is in a bad condition and can not produce enough of this antidote, we inject a certain amount of it into the system to help nature out. But we also inject this antidote regardless of the general condition of the system, for by so doing the patient is saved the strain incident to producing the antidote itself. I have said that man follows natures example and makes this same antidote, and he has called it "Antitoxine."

What is Antitoxine and how is it made? We know that as soon as man is attacked with diphtheria the system begins to manufacture an antidote for the poison of the disease. We have been unable to determine the chemical properties of this antidote and hence are not able to make it from chemicals, any more than we are able to make a living cell, though we may know the chemical composition of such a cell. However, we

do succeed in making identically the same antidote that is made in the human system. This is accomplished in nature's own laboratory. We place a lot of diphtheria germs in a place where they will generate their poison very rapidly and produce the most virulent form of it possible. When they have produced enough of this poison we take a certain amount of it and inject it into a horse. Naturally the horse becomes quite sick. He is in just the same condition as a man who has suffered from diphtheria for several days, except that none of the antidote has been developed. Nature immediately goes to work in her laboratories in the horse and makes enough of the antidote to overcome the effect of this poison in the horse. By watching the horse we are able to tell just when the blood contains the proper amount of the antidote. As soon as this stage is reached a certain amount of blood is taken from the horse. This blood contains the antidote for the poison of diphtheria. It is taken to the laboratory, and after having been passed through certain processes we are offered the clean, pure product in as condensed a form as possible.

Every step in this process is taken under the most aseptic precautions, and the stables in which the horses are kept are cleaner than most houses. But this is not all; after each lot of antitoxine is made a sample of it is sent to the laboratories of the U. S. Public Health and Marine Hospital Service, where it is tested, both with regard to its purity and strength, and samples are bought on the open market and tested in the same way. Every package of antitoxine is labeled in such a way that its source may easily be known, even down to the horse from which the blood was taken and the time at which the sample was taken. Should any sample fail to come up to the standard in every respect, the manufacturer would lose his license to make this product, hence every assurance of a perfectly pure product is supplied.

What will Antitoxine do? It has changed diphtheria from one of the most fatal diseases known to man to one of comparatively little danger, provided the treatment is started early and properly used. It will not only cure the disease, but a small dose injected into a person exposed to diphtheria will prevent his taking the disease. This protection will only last

about four weeks, but it is effectual for that time.

You will hear some people say, "I saw a little fellow who had been given antitoxine die of heart failure after he was all well of the diphtheria." Did you ever hear of any one dying of heart failure after he was all well of diphtheria when antitoxine was not used? If you did not you have heard very little about diphtheria, for this is not at all uncommon. Antitoxine not only does not produce heart failure, but in cases where it is threatened it very frequently prevents it. The evidence on which this statement is based will fill a good sized book and there is not a man in the medical profession today, who is up to date, who questions it for a second.

We sometimes hear people say, "I wouldn't have that poison injected into me." But these same people will quietly take strychnine, Atropine, or any other poison that they can find in a directory of drugs. They simply do not realize that antitoxine is nature's own remedy, that antitoxine is the very thing that your system makes to overcome the effects of the poison produced by the disease germs; they simply do not know that man has never produced a laboratory as perfectly equipped as that which exists in the anatomy of every living animal; they simply do not know that antitoxine is manufactured in this perfect laboratory instead of in the comparatively crude affairs constructed by man, and above all most of these people talk about what they WOULD do IF they were sick, but take a very different view of it when they are sick.

Antitoxine is an expensive remedy. Yes, a single dose costs quite a little; but is it so expensive after all? If a single dose will save you two calls by your physician, it has paid for itself, has it not? Now I do not believe that there is one who has had any experience with the treatment of diphtheria who will not subscribe to the statement that a single dose of antitoxine in diphtheria will save many times two calls. But this is not all. What did you call a doctor for? Naturally to try to save the life of your child, and if he can do this with antitoxine and can't do it without, what difference does it make what the cost of the remedy is? Is your child worth the price? That is the only question for you to answer. Is antitoxine a good

investment? Most of our large cities think so, for they supply it free of charge to all persons suffering from or exposed to diphtheria. And not only our large cities, but many of our states are furnishing it free of charge to all the people of the state. Most city councils and state legislatures are made up of business men, and these men would not make this expenditure if it were not good business policy; they simply figure the value of a human life to the state and they find that there is a good profit to the state from the purchase of this remedy and supplying it free to the people of the state. Antitoxine is a good investment; it saves lives (MANY of them), it prevents others from taking the disease, and it reduces the number of visits from your physician.

COMMUNICABLE DISEASES REPORTED FOR THE
MONTH OF DECEMBER, 1907.

SMALLPOX—Cases of Smallpox were reported as follows: Broadwater 1; Cascade 1; Flathead 2; Lewis and Clark 2 (both in Helena, imported from North Dakota); Missoula 3 (all in Missoula City); Park 1; Powell 2, 1 imported; Silver Bow 1 (in Butte); total 13; total last month 7; total last December 7.

DIPHTHERIA—Cases of Diphtheria were reported as follows: Custer 20; Dawson 9; Deer Lodge 7 (3 in Anaconda); Flathead 11; Jefferson 6; Missoula 8 (5 in Missoula City); Park 5 (all in Livingston); Rosebud 1; Sanders 5; Silver Bow 20 (16 in Butte); Sweetgrass 1; Yellowstone 7; (6 in Billings); total 100; total last month 145; total last December 55

SCARLATINA—Cases of Scarlet Fever were reported as follows: Cascade 25 (22 in Great Falls); Dawson 1; Deer Lodge 9 (3 in Anaconda; Lewis and Clark 7 (in Helena); Meagher 8; Missoula 2 (both in Missoula City); Ravalli 5; Silver Bow 10 (4 in Butte; total 67; total last month 66;; total last December 14.

MEASLES—Cases of Measles were reported as follows: Chouteau 1; Deer Lodge 5 (4 in Anaconda); Lewis and Clark 1 (in Helena); Madison 5; Silver Bow 3 (all in Butte); Yellowstone 4 (3 in Billings); total 19; totals last month 8; total last December 64.

TYPHOID FEVER—Cases of Typhoid Fever were reported as follows: Beaverhead 1; Cascade 3; Carbon 6; Fergus 2; Flathead 2; Lewis and Clark 1 (in Helena, imported); Missoula 6 (4 in Missoula City, 2 imported); Powell 1; Silver Bow 2 (both in Butte); Yellowstone 3 (2 in Billings); total 27; total last month 118; total last December 13.

MORTALITY

Deaths Reported to the State Board of Health for the Month of December, 1907, Arranged According to Counties,

	Totals.....	All other Causes..	Alcoholism.....	Suicide.....	Violence.....	Acute Intestinal Diseases.....	Malignant Tumors	Organic Heart Disease.....		Totals.....						
Beaverhead.....										8						
Broadwater.....										1						
Carbon.....										14						
Cascade.....	2									22						
Chouteau.....										6						
Custer.....										1						
Dawson.....										5						
Deer Lodge.....	1									31						
Fergus.....										2						
Flathead.....	4									5						
Gallatin.....	1									27						
Granite.....										9						
Jefferson.....	1									4						
Lewis and Clark.....	3									14						
Madison.....										1						
Meagher.....										5						
Missoula.....	3	1								50						
Park.....										12						
Powell.....										5						
Ravalli.....	1		1							11						
Rosebud.....			2							3						
Sanders.....										11						
Silver Bow.....	8		1							25						
Sweet Grass.....										76						
Teton.....										0						
Valley.....										0						
Yellowstone.....	1		1							3						
Totals.....	25	6	5	1	18	8	56	17	27	14	7	50	7	11	121	373

Deaths per 100,000; 133.2

Annual Death rate per 1,000; 15.98

Deaths reported from cities of 5,000 or more inhabitants

Anaconda.....	1		1				3		5	1	1	2				7	20
Billings.....	1			1			6	1	2							5	19
Bozeman.....	1						7	3	3	1	2	3	1	2	1	3	9
Butte.....	5		1	1	1	1	7	2	3	1	2	3	2	1	15	44	
Great Falls.....	2		2		4		1	1	1			1			7	19	
Helena.....	3				2		3		2	1		1	2	1	4	18	
Livingston.....							1		1					1	2	6	
Missoula.....	3				6	1	5	1				5	1		7	29	

